

## ATMI announces strong results

### Company News

Advanced Technology Materials, Inc. (ATMI) has announced its fourth quarter and 1996 year end results. Impressively, revenues grew by no less than 54% during 1996, reaching \$46,349,000 from last year's \$30,048,000. The Danbury, CN, based company also reports good results from international sales tie-up with the UK's Wafer Technology and from blue emitter materials.

The company's fourth quarter results reveal that ATMI is well on course in its plans for continually increasing revenues through diversification and acquisition. Net income rose to \$3,321,000, or \$0.35 per share, from a net income of \$554,000. Product sales, at \$36,503,000, led ATMI's 1996 expansion, increasing 71% compared with \$21,336,000 in 1995.

Gene Banucci, ATMI's CEO, said "In 1996, ATMI grew rapidly even though the semiconductor industry softened. We believe our EcoSys semiconductor environmental unit moved into the number two slot in worldwide market share, achieving one of our strategic goals: to make each of our business units first or second in their markets. Our NovaMOS semiconductor materials unit made significant gains as memory chip manufacturers increased orders for next-generation materials and our Epitronics wafer and thin film business continued to make good progress in commercializing new products for the wireless communications and blue emitter markets."

ATMI has also an-

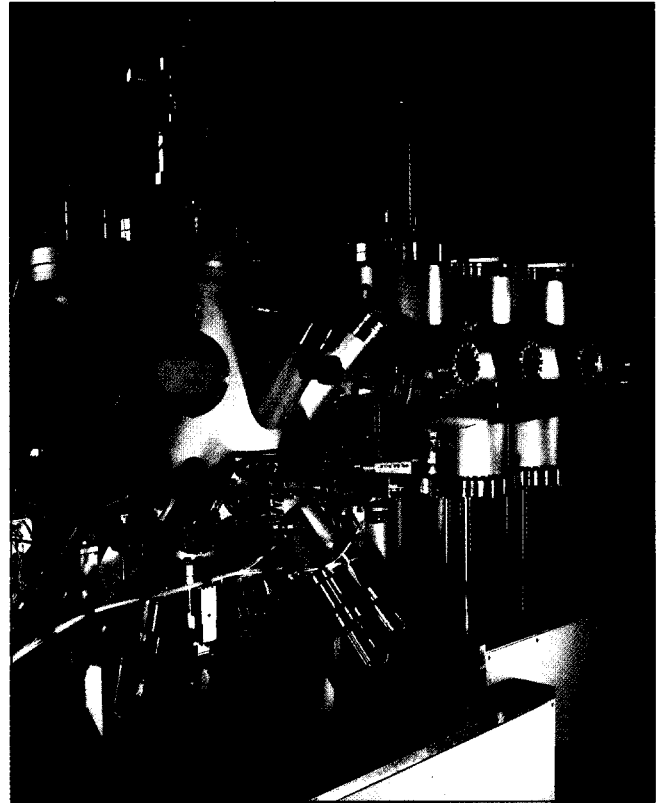
nounced positive results from a four-year effort to develop a BSTcapacitor for use in silicon DRAMs. ATMI was the prime contractor under a DARPA-sponsored consortium with IBM, Micron Technology, Texas Instruments, Varian Associates, RWTH Aachen, and N. Carolina State University.

"Results of the program exceeded expectations", Dr Peter Kirlin, ATMI Executive VP, told *III-Vs Review*. "Not only do the properties of the BST capacitor offer the potential to significantly reduce the complexity of the capacitor cell in 1 gigabit DRAMs, but several barriers to integrating ferroelectric materials into mainstream semiconductor manufacturing have been overcome. The properties of the BST capacitors exceeded our original expectations by a wide margin. Present BST capacitance density represents a 15-20 times improvement over ONO (oxide-nitride-oxide), which could significantly reduce the complexity and the associated manufacturing cost of the storage node in advanced DRAMs".

The consortium demonstrated BST capacitors with 100 fF/fm<sup>2</sup> and symmetric leakage currents less than 0.01  $\mu\text{m}/\text{cm}^2$ . Accelerated ageing studies yielded extrapolated dielectric life in excess of 10 years at 85°C and 1.6 V. In addition, several novel process modules were developed to produce a storage node with a conductive plug capable of withstanding BST capacitor processing at sub- $\mu\text{m}$  geometries.

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## QED installs a fourth V100



### Company News

The Bethlehem, PA, USA merchant epiwafer company — Quantum Epitaxial Designs (QED) is to install a fourth multiwafer MBE machine  $\mu\text{m}$  another VG Semicon V100 (see photo). "The addition of the fourth system is a reflection of the growing commercial acceptance of MBE material," sta-

ted James McKeown, QED's Business Development Manager. "Increased capacity provides greater flexibility, manufacturing efficiency and production throughput, thereby allowing QED to offer our customers higher quality product and better service."

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## Kopin adds capacity

### Company News

Kopin Corp., Taunton, MA, has reported its results for the fourth quarter 1996 and revenue was \$4,879,150 compared to \$6,347,910 for Q4 1995. Net loss was \$6,255,020, or \$0.57 per share, which includes a NR charge for write-down of assets of Kopin's majority-owned subsidiary, Forte Technologies, Inc.

John Fan, President and

CEO of Kopin, said "During the quarter, the company continued to make significant investments in increased capacity for our GaAs Wafer-Engineered materials manufacturing business, as well as ongoing R&D investments in our FPD business. We are implementing a program to more than triple capacity in 1997 to satisfy anticipated demand."